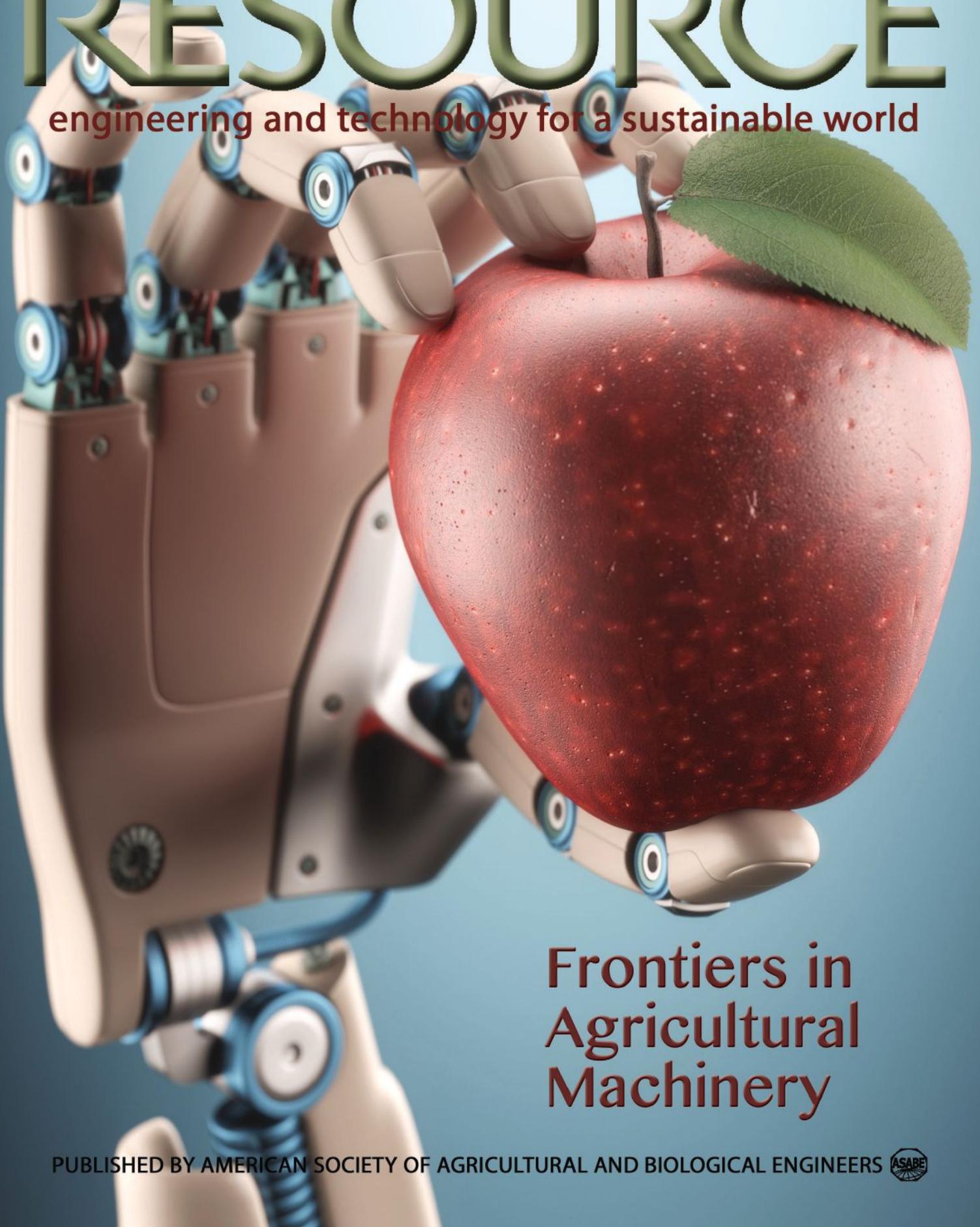


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engineering and technology for a sustainable world



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Robotic hand holding an apple.
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FEATURES



5

- 4 First Word: Frontiers in Agricultural Machinery**
Chad Yagow, Guest Editor

- 5 Mechanization for Sustainable Production: The Outlook for Smallholder Farmers**
Brian G. Sims

- 8 The Club of Bologna**
John K. Schueller, P.E.

- 10 Globalization's Impact on Future Ag Equipment**
Maury V. Salz

- 12 Leveraging Standards in a Regulatory Era**
Randy Renze

- 14 Future Needs for Specialty Agriculture Equipment**
Mike Vande Voort, P.E.

- 16 Fully Automated Tree Fruit Harvesting**
Qin Zhang and Manoj Karkee

- 18 Precision Ag Data Usage: Current Trends and Future Opportunities**
Joe D. Luck, P.E.

- 20 Manure Systems: A Balancing Act of Animals, Equipment, Labor, and the Environment**
Andy Lenkaitis, P.E.

- 22 Farm Equipment for the Emerging Biofuel Economy**
Shahab Sokhansanj, P.Eng., and Erin Webb, P.E.

- 24 An Autonomous, Solar-Powered Tractor**
Joe Dvorak, P.E.



16



18



20



31

DEPARTMENTS

- 2 From the President/Events Calendar**
- 26 Meet the Fellows: Honoring the Newly Elected**
- 28 Focus on the Foundation: The Importance of Giving Back to ASABE** Edward M. Barnes and Sylvia Schonauer, P.E.
- 29 Professional Opportunities**
- 30 Professional Listings**
- 31 Last Word: Crystal Ball Gazing** Bernard E. Romig



The Club of Bologna

John K. Schueller, P.E.

CLUB OF BOLOGNA
PRIZE
Giuseppe Pellizzi International Best PhD Prize

When I tell people I'm going to a Club of Bologna meeting, I'm often met with a quizzical look and some version of "What's that?" Some older or more knowledgeable people recognize the parallelism to the Club of Rome—famous for being a group of leaders who identify world problems and for their bestselling report *The Limits to Growth*—and want to know the difference. The Club of Bologna is specifically focused on studying and defining strategies for agricultural mechanization worldwide.

The genesis of the Club of Bologna goes back to UNACOMA, the Italian Association of Agricultural Machinery Manufacturers (now FederUnacoma), which started an annual (now biennial) exhibition called *Esposizione Internazionale di Macchine per l'Agricoltura* (EIMA) that has since become one of the world's largest agricultural machinery exhibitions, with 235,000 attendees in 2014. There have been other activities concurrent with the EIMA machinery shows, most notably a 1987 international symposium entitled "Research and Information-Spreading on Innovations for Agriculture and Industry in the Year 2000." During the closing session of that symposium, a proposal was made for the periodic exchange of information between countries on the state-of-the-art of agricultural mechanization. One of the objectives was to define the outlook for the future. Subsequently, Professor Giuseppe Pellizzi led the founding of the Club of Bologna and served as its first president. According to its internal rules, the Club was "established in 1988 for the study and definition of strategies for the development of agricultural mechanization worldwide, taking into consideration technical, economic, and social advances and changes on an international level."

The Club did not want to duplicate what already existed. At the first meeting, Dr. Yoav Sarig said, "I do not think we need another form of conference, as there are enough opportunities for professional meetings ... The idea is to benefit from the intelligence and experience of the people who are

here ... to be able to eventually come up with a series of guidelines for the future."

The Club of Bologna is an independent nonprofit association sponsored by FederUnacoma under the auspices of the International Commission of Agricultural and Biosystems Engineering (CIGR) and in close collaboration with FAO, UNIDO, and the *Accademia dei Georgofili* (Academy of Georgofili). The Club usually meets annually at the largest machinery shows—EIMA in Bologna in even-numbered years and Agritechnica in Hannover in odd-numbered years. Membership is by invitation only to select individuals who have outstanding roles and experience in the agricultural mechanization sector. Members are expected to attend meetings and contribute meaningfully to the discussion. After presentations and discussions by the Club's internationally diverse group, members have an obligation to transfer and disseminate their gained knowledge in their home countries. Incidentally, more than 30 members of the Club of Bologna are also ASABE members.

During the early years of the Club of Bologna, the presentations and transcripts of the formal discussions were published in book form after each annual meeting. Now the presentations and findings are available on-line. Recent meetings have dealt with such issues as electric drives, energy use of biomass, life cycle assessment, and robotics for agriculture.

For example, the 2013 meeting dealt with the topic of "International Standards: Opportunity or Problem." There were presentations by individuals from organizations (FAO, CEMA, ASABE, etc.) and companies (AGCO, Deere, Kubota, and TAFE) and then discussions. Based on the pre-



Members of the Club of Bologna at the 2014 meeting in Bologna. Photo courtesy of Club of Bologna.



Panel discussion during the 2015 meeting of the Club of Bologna as part of the World's Fair in Milan.

sentations and discussions, the members submitted comments that were used to generate conclusions and recommendations. Some of the recommendations for this topic included increased dissemination of standards through the internet, more educational opportunities for smaller manufacturers, encouragement of governments in developing countries to emphasize standards, and efforts to prevent potential overregulation of engine emission standards.

I knew nothing about the Club of Bologna until I was asked to give my first presentation. But I found the different perspectives of the members and the high level of their knowledge and experience to be very informative. I seized the opportunity to join when I was offered membership, even though participation demands a significant commitment of time and finances—at least for someone far from Italy and Germany. The members come from 37 different countries and a variety of universities, agencies, and manufacturers. A 17-member Management Committee orchestrates the details under the current leadership of president Luigi Bodria (professor in the University of Milan's Department of Agricultural and Environmental Science and past director of the Institute of Agricultural Mechanics) and technical secretary Marco Fiala (associate professor in the University of Milan's Department of Agricultural and Environmental Sciences).

In addition to the meetings, which are conducted in a formal manner, the informal discussions during meals, breaks, and transportation have allowed me to establish professional relationships with machinery experts from around the world. It is interesting to get their perspectives. Not long ago, I shared a bus ride with a Club member who was working on alternative energy equipment, while NATO—led by my home

country—was embargoing his country and bombing his facilities.

Every two years, on the occasion of EIMA International, the Club of Bologna and the *Accademia dei Georgofili* organizes the Giuseppe Pellizzi Prize. FederUnacoma sponsors this international competition for recent doctoral dissertations

focused on agricultural machinery and mechanization. The biennial prize is given during the EIMA events to the top three dissertations completed within the previous two years. Club members can nominate candidates from any country for the prize.

The Club of Bologna developed the Milan Charter for Mechanization, which was appended to the Milan Charter given to the United Nations Secretary General at the World's Fair in Milan last October. It emphasizes the strategic role of mechanization—and agricultural technologies in general—in meeting the food needs of the world. Two points are emphasized: the development of mechanization appropriate to local conditions in developing countries, and the evolution of mechanization to improve sustainability in industrialized countries.

The November 2016 meeting will concentrate on preparing a book—*Evolution and Prospects of Agricultural Mechanization in the World*—to celebrate 27 years of the Club of Bologna. This book will document the crucial role that mechanization has played in the past and will play in the future to produce the food needed to support an increasing population with limited resources. Individual chapters will document the historical, current, and future roles of agricultural mechanization in major countries and regions.

Because the goal of the Club is to generate and publicize information on agricultural mechanization worldwide, the meeting proceedings, member lists, and other documents are publically available at www.clubofbologna.org.

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Club of Bologna President Luigi Bodria leads a discussion during the meeting at the 2015 World's Fair in Milan.



John Schueller and Professor Karl Renius participate in discussions at the 2014 meeting of the Club of Bologna.